

AMENDMENTS

In the Claims

Claims 59 and 65 are currently amended.

Claims 1, 5, 22, 26, 30, 34, 50, 54, and 77 were previously amended.

Claims 4, 25, 33, 53 and 80 have been canceled.

Claims 1-3, 5-24, 26-32, 34-52, 54-79 remain in the application and are listed below:

1. (Previously Presented) A method of determining the context of a computing device comprising:

determining whether any of a number of context providers are available to provide context information that can be processed by the computing device to ascertain its context;

receiving context information from one or more of the context providers that are determined to be available; and

processing the context information on the computing device to determine the context of the computing device, wherein the processing of the information comprises:

mapping the context information to a node on a hierarchical tree structure that is carried on the device, the hierarchical tree structure comprising multiple nodes that represent physical or logical entities; and

traversing one or more nodes of the tree structure to ascertain a complete context.

1 2. (Original) The method of claim 1, wherein the computing device is a
2 mobile computing device.

3
4 3. (Original) The method of claim 1, wherein the computing device is a
5 handheld mobile computing device.

6
7 4. (Canceled).

8
9 5. (Previously Presented) The method of claim 1, wherein the
10 traversing comprises traversing multiple hierarchical tree structures that are
11 carried on the device.

12
13 6. (Original) The method of claim 5, wherein the tree structures are
14 linked.

15
16 7. (Original) The method of claim 5, wherein one of the tree structures
17 comprises nodes that represent geographical divisions of the Earth.

18
19 8. (Original) The method of claim 5, wherein one of the tree structures
20 comprises nodes that represent geographical divisions of the Earth, and another of
21 the tree structures comprises nodes that represent an organization-specific
22 structure.

1 9. (Original) The method of claim 1, wherein the computing device is
2 configured to determine whether any of the number of context providers are
3 available.

4
5 10. (Original) The method of claim 1, wherein the computing device is
6 configured to determine whether any of the number of context providers are
7 available by polling one or more of the context providers.

8
9 11. (Original) The method of claim 1, wherein the computing device is
10 configured to receive events that pertain to the status of the context providers.

11
12 12. (Original) The method of claim 1 further comprising using a
13 previously determined current context if no context providers are determined to be
14 available.

15
16 13. (Original) The method of claim 12 further comprising decreasing,
17 over time, a confidence parameter associated with the previously determined
18 current context, the confidence parameter providing a measure of the confidence
19 associated with the previously determined current context.

20
21 14. (Original) The method of claim 12 further comprising continuing to
22 determine whether any of a number of context providers are available.

1 15. (Original) The method of claim 14, wherein the using of the
2 previously determined current context can continue until one or more context
3 providers are determined to be available.

4
5 16. (Original) The method of claim 1, wherein the processing of the
6 context information comprises ordering the context providers in accordance with a
7 trust parameter that is assigned to each context provider and defines a level of trust
8 associated with the context provider.

9
10 17. (Original) The method of claim 16 further comprising determining
11 whether there are any conflicts with the context information and, if so, selecting
12 only context information from certain ordered context providers.

13
14 18. (Original) The method of claim 1, wherein the processing of the
15 context information comprises ordering the context providers in accordance with a
16 confidence parameter that provides a measure of a context provider's confidence
17 in its context information.

18
19 19. (Original) The method of claim 18 further comprising determining
20 whether there are any conflicts with the context information and, if so, selecting
21 only context information from certain ordered context providers.

22
23 20. (Original) The method of claim 1, wherein the processing of the
24 context information comprises ordering the context providers in accordance with a
25 trust parameter that is assigned to each context provider and defines a level of trust

1 associated with the context provider, and a confidence parameter that provides a
2 measure of a context provider's confidence in its context information.

3
4 21. (Original) The method of claim 20 further comprising determining
5 whether there are any conflicts with the context information and, if so, selecting
6 only context information from certain ordered context providers.

7
8 22. (Previously Presented) One or more computer-readable media
9 having computer-readable instructions thereon which, when executed by a
10 computing device, cause the computing device to:

11 determine whether any of a number of context providers are available to
12 provide context information that can be processed by the computing device to
13 ascertain its context;

14 receive context information from one or more of the context providers that
15 are determined to be available; and

16 process the context information on the computing device to determine the
17 context of the computing device by:

18 mapping the context information to a node on a hierarchical tree
19 structure that is carried on the device, the hierarchical tree structure
20 comprising multiple nodes that represent physical or logical entities; and

21 traversing one or more nodes of the tree structure to ascertain a
22 complete context.

23
24 23. (Original) The computer-readable media of claim 22, wherein the
25 computing device comprises a mobile computing device.

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2 24. (Original) The computer-readable media of claim 22, wherein the
3 computing device comprises a handheld mobile computing device.

4
5 25. (Canceled).

6
7 26. (Previously Presented) The computer-readable media of claim 22,
8 wherein the traversing comprises traversing multiple hierarchical tree structures
9 that are carried on the device.

10
11 27. (Original) The computer-readable media of claim 26, wherein the
12 tree structures are linked.

13
14 28. (Original) The computer-readable media of claim 26, wherein one of
15 the tree structures comprises nodes that represent geographical divisions of the
16 Earth.

17
18 29. (Original) The computer-readable media of claim 26, wherein one of
19 the tree structures comprises nodes that represent geographical divisions of the
20 Earth, and another of the tree structures comprises nodes that represent an
21 organization-specific structure.

22
23 30. (Previously Presented) A method of determining the location of a
24 computing device comprising:
25

1 determining whether any of a number of location providers are available to
2 provide location information that can be processed by the computing device to
3 ascertain its location;

4 receiving location information from one or more of the location providers
5 that are determined to be available; and

6 processing the location information on the computing device to determine
7 the location of the computing device, wherein the processing of the information
8 comprises:

9 mapping the location information to a node on a hierarchical tree
10 structure that is carried on the device, the hierarchical tree structure
11 comprising multiple nodes that represent physical or logical entities; and

12 traversing one or more nodes of the tree structure to ascertain a
13 complete location.
14

15 31. (Original) The method of claim 30, wherein the computing device
16 comprises a mobile computing device.
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18 32. (Original) The method of claim 30, wherein the computing device
19 comprises a handheld mobile computing device.
20

21 33. (Canceled).
22

23 34. (Previously Presented) The method of claim 30, wherein the
24 traversing comprises traversing multiple hierarchical tree structures that are
25 carried on the device.

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2 35. (Original) The method of claim 34, wherein the tree structures are
3 linked.

4
5 36. (Original) The method of claim 34, wherein one of the tree
6 structures comprises nodes that represent geographical divisions of the Earth.

7
8 37. (Original) The method of claim 34, wherein one of the tree
9 structures comprises nodes that represent geographical divisions of the Earth, and
10 another of the tree structures comprises nodes that represent an organization-
11 specific structure.

12
13 38. (Original) The method of claim 30, wherein the computing device is
14 configured to determine whether any of the number of location providers are
15 available.

16
17 39. (Original) The method of claim 30, the computing device is
18 configured to determine whether any of the number of location providers are
19 available by polling one or more of the location providers.

20
21 40. (Original) The method of claim 30 further comprising using a
22 previously determined current location if no location providers are determined to
23 be available.

1 41. (Original) The method of claim 40, further comprising decreasing,
2 over time, a confidence parameter associated with the previously determined
3 current location, the confidence parameter providing a measure of the confidence
4 associated with the previously determined current location.

5
6 42. (Original) The method of claim 40 further comprising continuing to
7 determine whether any of a number of location providers are available.

8
9 43. (Original) The method of claim 42, wherein the using of the
10 previously determined current location can continue until one or more location
11 providers are determined to be available.

12
13 44. (Original) The method of claim 30, wherein the processing of the
14 location information comprises ordering the location providers in accordance with
15 a trust parameter that is assigned to each location provider and defines a level of
16 trust associated with the location provider.

17
18 45. (Original) The method of claim 44 further comprising determining
19 whether there are any conflicts with the location information and, if so, selecting
20 only location information from certain ordered location providers.

21
22 46. (Original) The method of claim 30, wherein the processing of the
23 location information comprises ordering the location providers in accordance with
24 a confidence parameter that provides a measure of a location provider's
25 confidence in its location information.

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2 47. (Original) The method of claim 46 further comprising determining
3 whether there are any conflicts with the location information and, if so, selecting
4 only location information from certain ordered location providers.

5
6 48. (Original) The method of claim 30, wherein the processing of the
7 location information comprises ordering the location providers in accordance with
8 a trust parameter that is assigned to each location provider and defines a level of
9 trust associated with the location provider, and a confidence parameter that
10 provides a measure of a location provider's confidence in its location information.

11
12 49. (Original) The method of claim 48 further comprising determining
13 whether there are any conflicts with the location information and, if so, selecting
14 only location information from certain ordered location providers.

15
16 50. (Previously Presented) One or more computer-readable media
17 having computer-readable instructions thereon which, when executed by a
18 computing device, cause the computing device to:

19 determine whether any of a number of location providers are available to
20 provide location information that can be processed by the computing device to
21 ascertain its location;

22 receive location information from one or more of the location providers that
23 are determined to be available; and

24 process the location information on the computing device to determine the
25 location of the computing device by:

1 mapping the context information to a node on a hierarchical tree
2 structure that is carried on the device, the hierarchical tree structure
3 comprising multiple nodes that represent physical or logical entities; and
4 traversing one or more nodes of the tree structure to ascertain a
5 complete context.

6
7 51. (Original) The computer-readable media of claim 50, wherein the
8 computing device comprises a mobile computing device.

9
10 52. (Original) The computer-readable media of claim 50, wherein the
11 computing device comprises a handheld mobile computing device.

12
13 53. (Canceled).

14
15 54. (Previously Presented) The computer-readable media of claim 50,
16 wherein the traversing comprises traversing multiple hierarchical tree structures
17 that are carried on the device.

18
19 55. (Original) The computer-readable media of claim 54, wherein the
20 tree structures are linked.

21
22 56. (Original) The computer-readable media of claim 54, wherein one of
23 the tree structures comprises nodes that represent geographical divisions of the
24 Earth.

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1 57. (Original) The computer-readable media of claim 54, wherein one of
2 the tree structures comprises nodes that represent geographical divisions of the
3 Earth, and another of the tree structures comprises nodes that represent an
4 organization-specific structure.

5
6 58. (Original) A computing device that embodies the computer-readable
7 medium of claim 50.

8
9 59. (Currently Amended) A computing device that embodies the
10 computer-readable medium of claim [[53]] 50.

11
12 60. (Original) A computing device that embodies the computer-readable
13 medium of claim 54.

14
15 61. (Original) A computing device that embodies the computer-readable
16 medium of claim 55.

17
18 62. (Original) A computing device that embodies the computer-readable
19 medium of claim 56.

20
21 63. (Original) A computing device that embodies the computer-readable
22 medium of claim 57.

23
24 64. (Original) A mobile computing device that embodies the computer-
25 readable medium of claim 50.

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2 65. (Currently Amended) A mobile computing device that embodies the
3 computer-readable medium of claim [[53]] 50.

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5 66. (Original) A mobile computing device that embodies the computer-
6 readable medium of claim 54.

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8 67. (Original) A mobile computing device that embodies the computer-
9 readable medium of claim 55.

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11 68. (Original) A mobile computing device that embodies the computer-
12 readable medium of claim 56.

13
14 69. (Original) A mobile computing device that embodies the computer-
15 readable medium of claim 57.

16
17 70. (Original) A method of determining a current context of a computing
18 device comprising:

19 determining a current context of the device by:

20 receiving context information from multiple different context
21 providers;

22 mapping the context information to a node of a hierarchical tree
23 structure that is carried by the device and having multiple nodes each of which
24 represent a physical or logical entity; and
25

1 traversing the hierarchical tree structure to ascertain a complete
2 device context;

3 receiving additional context information from one or more context
4 providers; and

5 updating the current context of the device by:

6 mapping the context information to a node of the hierarchical tree
7 structure that is carried by the device; and

8 traversing the hierarchical tree structure to ascertain a complete
9 device context.

10
11 71. (Original) The method of claim 70 further comprising determining
12 whether there are any conflicts in the additional context information and, if so,
13 resolving the conflicts prior to updating the current context of the device.

14
15 72. (Original) The method of claim 71, wherein conflicts are resolved on
16 the basis of a trust parameter that is associated with each of the context providers.

17
18 73. (Original) The method of claim 71, wherein conflicts are resolved on
19 the basis of physical world constraints to travel.

20
21 74. (Original) The method of claim 70, wherein the context comprises
22 location.

23
24 75. (Original) The method of claim 74, wherein the device is a hand-
25 held device.

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2 76. (Original) One or more computer-readable media having computer-
3 readable instructions thereon which, when executed by the computing device,
4 cause the computing device to implement claim 70.

5
6 77. (Previously Presented) A computing device comprising:
7 a computer-readable medium; and
8 a context service module on the computer-readable medium and configured
9 to process information from multiple different context providers to determine a
10 current device context, the context service module being configured to:

11 determine whether any of a number of context providers are
12 available to provide context information that can be processed by the computing
13 device to ascertain its context;

14 receive context information from one or more of the context providers that
15 are determined by the device to be available; and

16 process the context information on the computing device to determine the
17 context of the computing device by:

18 mapping the context information to a node on a hierarchical tree
19 structure that is carried on the device, the hierarchical tree structure
20 comprising multiple nodes that represent physical or logical entities; and

21 traversing one or more nodes of the tree structure to ascertain a
22 complete context.

23
24 78. (Original) The computing device of claim 77 embodied as a mobile
25 computing device.

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2 79. (Original) The computing device of claim 77 embodied as a
3 handheld computing device.

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5 80. (Canceled).
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